UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,011	12/31/2003	Andrew S. Laucius	MS306413.1	9331

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EXAMINER
SCIACCA, SCOTT M

ART UNIT	PAPER NUMBER
2146	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/750,011	LAUCIUS ET AL.
Office Action Summary	Examiner	Art Unit
	Scott M. Sciacca	2146

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 December 2007_.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15 and 17-28_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-15 and 17-28_ is/are rejected.
7)☒ Claim(s) _19_ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

This office action is responsive to communications filed on December 21, 2007.

Claim 16 has been cancelled, Claims 1, 19, 22, 24 and 26 have been amended and

Claims 1-15 and 17-28 are pending in the application.

Claim Objections

1.   Claim 19 is objected to because of the following informalities: Claim 19 recites

the limitation "wherein the chunk maps stored in a chunk table are employed to

determine the first chunk" in line 3. There is insufficient antecedent basis for the "chunk

maps" mentioned in this limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.   Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. Claim 19, as currently amended recites the

new limitation "wherein the chunk maps stored in a chunk table are employed to

determine the first chunk". The specification does not provide the necessary

antecedent basis for this limitation in the claim. The specification does not disclose

chunk maps being stored in a chunk table.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Evans

et al. (US 2004/0030683).

        Regarding Claim 24, Evans teaches a data packet transmitted between two or

more computer components that facilitates document re-crawl, the data packet

comprising:

        a chunk header that includes metadata associated with the data packet (Fig. 3

shows a site map (chunk) having a header 324 that includes metadata; *"Metadata may*

also be obtained from the media/metadata transport stream, such as TCP/IP (e.g.,

packets)" – See [0017]);

        an offset section that provides offset information associated with document files

(Document files are offset into separate "levels" as illustrated in Fig. 3; *"the number of*

levels in a site map is heuristically determined. For example, a specific web site may be

exhaustively searched upon first being encountered and it is determined that six levels

comprise information related to streaming media and/or multimedia (i.e., the target

content)" – See [0026]); and,

the document files that include content found on the Internet (The site map

(chunk) shown in Fig. 3 comprises multiple document files which are content found on

the Internet, such as web pages, music objects, video objects, etc.),

wherein the average of the at least one of the properties of all the document files

determines if the document should be re-crawled (*"the system 100 stores auxiliary*

information pertaining to the encountered web sites in database 400" – See [0032]; *"The*

system uses the auxiliary information to determine how often to conduct a recrawl. How

often and when a recrawl is to be conducted may be determined statistically,

heuristically, and/or by user input" – See [0033]).

Regarding Claim 25, Evans teaches the document files comprising at least one

of an HTML file, a PDF file, a PS file, a PPT file, an XLS file and a DOC file (*"Web page*

content includes HTML" – See [0017]).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-4, 6-15, 17, 19-23 and 26-28 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Najork et al. (US 6,263,364) in view of Evans et al. (US

2004/0030683).

        Regarding Claim 1, Najork teaches an indexer that places items with similar

properties into respective chunks wherein the properties are at least one of average

time between change or average importance of documents comprising a particular

chunk (*"the document is assigned to a priority level subqueue based on a predefined*

set of criteria 282 are satisfied, including but not limited to: ... the document's rate of

change, based on (a) its modification date and time" – See Col. 11, lines 48-55; The

documents (items) with similar importance (based on their rate of change) are placed in

separate (queues) chunks with a corresponding priority level).

        Although Najork teaches properties being associated with their respective chunk,

Najork does not teach _storing_ these properties in a chunk map.

        Evans teaches a chunk map that stores properties associated with chunks (*"the*

system 100 stores auxiliary information pertaining to the encountered web sites in

database 400" – See [0032]) wherein the chunk map is employed to facilitate an

incremental web re-crawl (*"The system uses the auxiliary information to determine how*

often to conduct a recrawl. How often and when a recrawl is to be conducted may be

determined statistically, heuristically, and/or by user input" – See [0033]).

        The chunk map taught by Evans is used to facilitate an incremental re-crawl.

Evans does not teach that the properties stored in the chunk map are time between

change and/or importance of items comprising a particular chunk. However, Najork

teaches that associating items with similar time between change and importance in a

particular subqueue having an associated priority level is useful for facilitating an

incremental re-crawl (*"documents that change more frequently should be assigned to a*

higher priority level subqueue, on the basis that pages that exhibit changes are likely to

change again in the near future" – See Col. 11, lines 59-62; *"a continuous web crawler*

having priority level subqueues that are used to maintain the freshness of document

indices and other document based information databases" – See Col. 12, lines 22-25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include properties regarding time between change and/or

importance of items in each respective chunk within the "auxiliary data" taught by Evans

in order to facilitate a re-crawl.

Regarding Claim 2, Najork teaches the items comprising information associated

with a URL (*"Queue elements for URL's to be downloaded are assigned a priority level,*

and then stored in the corresponding priority queue" – See Col. 3, line 67 & Col. 4, lines

1-2).

Regarding Claim 3, Najork teaches the items comprising at least one of an HTML

file, a PDF file, a PS file, a PPT file, an XLS file and a DOC file (*"Each web page on the*

world wide web has a distinct address called its uniform resource locator (URL), which

identifies the location of the web page. Most of the documents on the world wide web

are written in standard document description languages (e.g., HTML, XML)" – See Col. 1, lines 20-25).

Regarding Claim 4, Najork teaches the crawler being responsible for a specific set of Uniform Resource Locators (The queue entry pictured in Fig. 3 has a corresponding URL 144. Each queue entry corresponds to a document that must be crawled or re-crawled. The web crawler 102 is responsible for crawling all the documents associated with a respective URL in each of the queues).

Regarding Claim 6, Najork teaches a master control process that serves as an interface between a crawler and a re-crawl controller (Queue Element Procedure 138).

Regarding Claim 7, Najork teaches the master control process maintaining a known chunks table that stores information for components of a system (*"a set of Queue Element handling procedures 138 for adding and deleting records of information to queue elements, and for adding and deleting name/value pairs to those records of information"* – See Col. 5 lines 66-67 & Col. 6, lines 1-2).

Regarding Claim 8, Najork teaches the master control process exposing an interface for communication with a component of the system (Communications Interface 104 allows communication with other components of the system such as Web Page Indexing System 116).

Regarding Claim 9, Najork teaches returning a list of chunks the component

should have and where to get the chunks (*"one processing module might determine*

whether the document has already been included in a web page index" – See Col. 1,

lines 58-60).

Regarding Claim 10, Najork teaches returning a list of the chunks that should be

actively served by the component (*"Another processing module might add or update a*

document's entry in the web page index" – See Col. 1, lines 62-64).

Regarding Claim 11, Najork teaches returning a range of chunk identifiers to use

in building a new chunk by the component (*"a host-to-queue assignment table 132 for*

recording dynamic assignments of host identifiers to the queues 128" – See Col. 5, lines

56-58).

Regarding Claim 12, Evans teaches causing an old chunk to be retired by the

system (*"the system 100 conducts subsequent extensive searches (referred to as*

recrawl) of previously encountered web sites to update the database 400 (e.g., update a

web site's respective site map, update the directory of encountered sites 412, delete a

site map, delete a URL from the directory 412)" – See [0033]; The site map corresponds

to a chunk of documents, as shown in Fig. 3 and described in paragraph [0025]).

Regarding Claim 13, Najork teaches the master control process facilitating movement of chunks from one component to another component (*"Multiple threads substantially concurrently process the document addresses in the queues"* – See Abstract; *"the SelectQueue procedure selects any one of those queues, removes it from the ordered set, and passes it to the calling thread"* – See Col. 14, lines 52-54).

Regarding Claim 14, Najork teaches the movement of chunks being based upon at least one of rebalancing index servers after one goes down, re-crawling pages previously crawled, and restoring a state of a crawler after it has crashed (*"The threads then process the queue elements in the underlying queues"* – See Col. 4, lines 5-6; *"Many other examples of criteria 282 for assigning a priority level to a document's queue element can be devised by one of ordinary skill in the art, depending in large part on what information is stored in the document's download history and an assessment of which documents are the most important to refresh the most frequently"* – See Col. 12, lines 1-6).

Regarding Claim 15, Evans teaches a re-crawl component that employs the chunk map to determine which chunks, if any, to re-crawl at a particular time (*"the system 100 stores auxiliary information pertaining to the encountered web sites in database 400"* – See [0032]; *"The system uses the auxiliary information to determine how often to conduct a recrawl. How often and when a recrawl is to be conducted may be determined statistically, heuristically, and/or by user input"* – See [0033]).

Regarding Claim 17, Evans teaches an index chunk that stores information associated with an index of at least some of the items (*"The directory 412 of encountered web sites comprises the URL of each encountered web site for which a site map has been created and information pertaining to the content of each web site"* – See [0027]).

Regarding Claim 19, Najork teaches parsing a first chunk for uniform resource locators, re-crawling the uniform resource locators, and forming a second chunk based upon the re-crawled uniform resource locators (*"Given a set of URL's, the web crawler 102 enqueues the URL's into appropriate queues 128. Multiple threads 130 are used to dequeue URL's out of the queues 128, to download the corresponding documents or web pages from the world wide web and to extract any new URL's from the downloaded documents. Any new URL's are enqueued into the queues 128"* – See Col. 6, lines 29-35; After the crawling is performed, any newly discovered URL's are placed into queues (chunks). The queues are modified from their previous state. Thus, at least one new chunk is formed based upon the re-crawled URL's).

Najork does not explicitly teach the chunk maps stored in a chunk table being employed to determine the first chunk. Evans teaches chunk maps being employed to determine a first chunk (site maps 414, 416, 422 and 424 are stored in database 400; *"the agent utilizes the directory and the respective site map to search only for relevant content (referred to as a focused crawl)"* – See [0023]).

The chunk map taught by Evans is used to determine a chunk to re-crawl. Evans does not teach that the properties stored in the chunk map are time between change and/or importance of items comprising a particular chunk. However, Najork teaches that associating items with similar time between change and importance in a particular subqueue having an associated priority level is useful for facilitating an incremental re-crawl (*"documents that change more frequently should be assigned to a higher priority level subqueue, on the basis that pages that exhibit changes are likely to change again in the near future"* – See Col. 11, lines 59-62; *"a continuous web crawler having priority level subqueues that are used to maintain the freshness of document indices and other document based information databases"* – See Col. 12, lines 22-25). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include properties regarding time between change and/or importance of items in each respective chunk within the "auxiliary data" (chunk map) taught by Evans in order to determine a chunk to re-crawl.

Regarding Claim 20, Evans teaches determining whether any chunks are to be retired (*"the system 100 conducts subsequent extensive searches (referred to as recrawl) of previously encountered web sites to update the database 400 (e.g., update a web site's respective site map, update the directory of encountered sites 412, <u>delete a site map</u>, delete a URL from the directory 412)"* – See [0033]; The site map corresponds to a chunk of documents, as shown in Fig. 3 and described in paragraph [0025]).

Regarding Claim 21, Evans teaches one or more computer readable media

having stored thereon computer executable instructions for carrying out the method of

Claim 19 (*"The present invention may be embodied in the form of computer-*

implemented processes and apparatus for practicing those processes. The present

invention may also be embodied in the form of computer program code embodied in

tangible media, such as floppy diskettes, read only memories (ROMs), CD-ROMs, hard

drives, high density disk, or any other computer-readable storage medium, wherein,

when the computer program code is loaded into and executed by a computer, the

computer becomes an apparatus for practicing the invention" – See [0034]).

Regarding Claims 22 and 23, Evans teaches accessing a chunk map containing

properties associated with chunks of data as a result of one or more web crawls and

periodically determining, based on the properties in the chunk map, whether to re-crawl

one or more of the chunks of data (*"the system 100 stores auxiliary information*

pertaining to the encountered web sites in database 400" – See [0032]; *"The system*

uses the auxiliary information to determine how often to conduct a recrawl. How often

and when a recrawl is to be conducted may be determined statistically, heuristically,

and/or by user input" – See [0033]).

Evans does not explicitly teach the chunk map containing properties associated

with <u>respective</u> chunks of data, wherein the properties are at least one of average time

between change or average importance of documents comprising a particular chunk.

Najork teaches placing items with similar properties into respective chunks wherein the

properties are at least one of average time between change or average importance of documents comprising a particular chunk (*"the document is assigned to a priority level subqueue based on a predefined set of criteria 282 are satisfied, including but not limited to: … the document's rate of change, based on (a) its modification date and time"* – See Col. 11, lines 48-55; The documents (items) with similar importance (based on their rate of change) are placed in separate (queues) chunks with a corresponding priority level).

The chunk map taught by Evans is used to determine whether a re-crawl should be performed. Evans does not teach that the properties stored in the chunk map are time between change and/or importance of items comprising a particular chunk. However, Najork teaches that associating items with similar time between change and importance in a particular subqueue having an associated priority level is useful for facilitating an incremental re-crawl (*"documents that change more frequently should be assigned to a higher priority level subqueue, on the basis that pages that exhibit changes are likely to change again in the near future"* – See Col. 11, lines 59-62; *"a continuous web crawler having priority level subqueues that are used to maintain the freshness of document indices and other document based information databases"* – See Col. 12, lines 22-25). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include properties regarding time between change and/or importance of items in each respective chunk within the "auxiliary data" (chunk map) taught by Evans in order to determine whether a re-crawl should be performed.

Regarding Claim 26, Najork teaches means for placing items with similar

properties into respective chunks wherein the properties are at least one of average

time between change or average importance of documents comprising a particular

chunk (*"the document is assigned to a priority level subqueue based on a predefined*

set of criteria 282 are satisfied, including but not limited to: … the document's rate of

change, based on (a) its modification date and time" – See Col. 11, lines 48-55; The

documents (items) with similar importance (based on their rate of change) are placed in

separate (queues) chunks with a corresponding priority level).

Although Najork teaches properties being associated with their respective chunk,

Najork does not teach *storing* these properties in a chunk map.

Evans teaches means for storing properties associated with chunks (*"the system*

100 stores auxiliary information pertaining to the encountered web sites in database

400" – See [0032]) wherein the chunk map is employed to facilitate an incremental web

re-crawl (*"The system uses the auxiliary information to determine how often to conduct*

a recrawl. How often and when a recrawl is to be conducted may be determined

statistically, heuristically, and/or by user input" – See [0033]).

The means for storing properties associated with chunks taught by Evans is used

to facilitate an incremental re-crawl. Evans does not teach that the properties stored in

the chunk map are time between change and/or importance of items comprising a

particular chunk. However, Najork teaches that associating items with similar time

between change and importance in a particular subqueue having an associated priority

level is useful for facilitating an incremental re-crawl (*"documents that change more frequently should be assigned to a higher priority level subqueue, on the basis that pages that exhibit changes are likely to change again in the near future"* – See Col. 11, lines 59-62; *"a continuous web crawler having priority level subqueues that are used to maintain the freshness of document indices and other document based information databases"* – See Col. 12, lines 22-25). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include properties regarding time between change and/or importance of items in each respective chunk within the "auxiliary data" taught by Evans in order to facilitate a re-crawl.

Regarding Claim 27, Najork teaches the items comprising information associated with a URL (*"Queue elements for URL's to be downloaded are assigned a priority level, and then stored in the corresponding priority queue"* – See Col. 3, line 67 & Col. 4, lines 1-2).

Regarding Claim 28, Najork teaches the items comprising at least one of an HTML file, a PDF file, a PS file, a PPT file, an XLS file and a DOC file (*"Each web page on the world wide web has a distinct address called its uniform resource locator (URL), which identifies the location of the web page. Most of the documents on the world wide web are written in standard document description languages (e.g., HTML, XML)"* – See Col. 1, lines 20-25).

8.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Najork et

al. (US 6,263,364) in view of Evans et al. (US 2004/0030683) and further in view of

Eichstaedt et al. (US 6,182,085).

        Regarding Claim 5, Najork and Evans do not explicitly teach the system further

comprising a master control process that can modify the chunk map to facilitate load

balancing amongst a plurality of crawlers. However, Eichstaedt does teach a master

control process that can modify the chunk map to facilitate load balancing amongst a

plurality of crawlers (*"A distributed collection of web-crawlers to gather information over

a large portion of the cyberspace. These crawlers share the overall crawling through a

cyberspace partition scheme. They also collaborate with each other through load

balancing to maximally utilize the computing resources of each of the crawlers. The

invention takes advantage of the hierarchical nature of the cyberspace namespace and

uses the syntactic components of the URL structure as the main vehicle for dividing and

assigning crawling workload to individual crawler"* – See Abstract). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to have a

control process that can facilitate load balancing amongst a plurality of crawlers. One

would have been motivated to do so in order to maximally utilize the computing

resources of each of the crawlers.

9.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Najork

et al. (US 6,263,364) in view of Evans et al. (US 2004/0030683) and further in view of

Acharaya et al. (US 2007/0094255).

        Regarding Claim 18, Najork and Evans do not explicitly teach a ranking chunk

that stores a static rank associated with an index chunk. However, Acharaya does

teach a ranking chunk that stores a static rank associated with an index chunk

(*"Ranking component 330 may assign a ranking score (also called simply a "score"*

herein) to one or more documents in document corpus 340" – See [0038]). It would

have been obvious to one of ordinary skill in the art at the time the invention was made

to store a rank associated with an index chunk. Motivation for doing so would be to

improve search results generated in connection with a search query.

Response to Arguments

10.   Applicant's arguments with respect to Claims 1, 19, 22, 24 and 26 have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Scott M. Sciacca whose telephone number is (571) 270-

1919. The examiner can normally be reached on Monday thru Friday, 7:30 A.M. - 5:00

P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott M. Sciacca/
Examiner, Art Unit 2146

/JEFF PWU/
Supervisory Patent Examiner, Art Unit 2146